

June 6, 2001

IN RE: DOCKET NO. 2001-65-C – BellSouth Telecommunications, Inc. –
Generic Proceeding to Establish Prices for BellSouth
Telecommunications, Inc.'s Interconnection Services, Unbundled
Network Elements and Other Related Elements and Services.

**COPY OF TESTIMONY OF ALLEN G. BUCKALEW FILED ON
BEHALF OF CONSUMER ADVOCATE HAS BEEN DISTRIBUTED TO
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June 4, 2001

Honorable Gary E. Walsh
South Carolina Public Service Commission
P.O. Drawer 11649
Columbia, South Carolina 29211

Re: BellSouth Telecommunications, Inc.
Docket No. 2001-65-C

Dear Mr. Walsh:

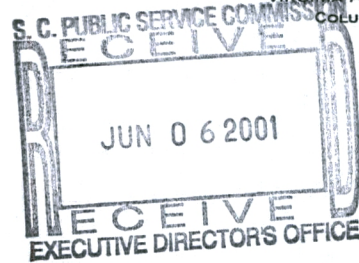
Enclosed for filing please find twenty-five (25) copies of the **Testimony of Allen G. Buckalew** on behalf of the Consumer Advocate in the above referenced case. Copies have been served on all parties listed on the attached Certificate of Service.

Sincerely,

Elliott F. Elam, Jr.
Elliott F. Elam, Jr.
Staff Attorney

Enclosure(s)
cc: parties of record

Jim is the best
Ben
Res
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CERTIFICATE OF SERVICE

This is to certify that I, Elliott F. Elam, Jr., on behalf of Philip S. Porter, Consumer Advocate, have served this day the **Testimony of Allen G. Buckalew** upon the persons named below, at the addresses set forth, by deposit in the United States mail, postage prepaid.

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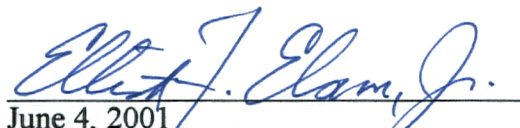
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June 4, 2001
Columbia, South Carolina

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STATE OF SOUTH CAROLINA
BEFORE THE PUBLIC SERVICE COMMISSION
DOCKET NO. 2001-65-C

S. C. PUBLIC SERVICE COMMISSION
RECEIVED
JUN 06 2001
EXECUTIVE DIRECTOR'S OFFICE

Generic Proceeding to Establish Prices for)
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Network Elements and Other Related)
Elements and Services.)
_____)

S. C. PUBLIC SERVICE COMMISSION
RECEIVED
JUN 06 2001
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TESTIMONY OF
ALLEN G. BUCKALEW
ON BEHALF OF
THE SOUTH CAROLINA CONSUMER ADVOCATE

JUNE 4, 2001

RETURN DATE: OK Day
SERVICE: OK Day

1 **I. QUALIFICATIONS AND INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS**
3 **ADDRESS.**

4 A. My name is Allen G. Buckalew. I am an Economist specializing in the
5 telecommunications industry at J.W. Wilson & Associates, Inc. Our offices are at
6 1601 North Kent Street, Rosslyn Plaza C – Suite 1104, Arlington, VA 22209.

7 **Q. PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND.**

8 A. I hold an A.A. and a B.S. degree with high honors, both from the University of
9 Florida, and a M.S. degree from George Washington University. My major areas
10 of concentration were economics and telecommunications.

11 **Q. HOW HAVE YOU BEEN EMPLOYED IN THE PAST?**

12 A. Before I entered the University of Florida, I worked for four years in Naval
13 Telecommunications. After graduating from the University of Florida, I worked
14 for four years at the Federal Communications Commission (“FCC”) as an Industry
15 Economist in the Common Carrier Bureau and was employed extensively in areas
16 involving telecommunications, economics, accounting, engineering, and policy
17 matters. For example, one of my major projects was “The Economic Implications
18 and Interrelationships Arising from Policies and Practices Relating to Customer

1 Interconnection, Jurisdictional Separations and Rate Structures,” (Docket 20003).

2 This case opened the terminal equipment (e.g., telephone sets, and private branch
3 exchanges (“PBXs”)) market in the United States to competition. I also provided
4 economic analysis in several rate cases. For example, “Communications Satellite
5 Corporation, Investigation into Charges, Practices, Classifications, Rates and
6 Regulations,” (Docket 16070). My major responsibility was to serve as economic
7 advisor and analyst for the Common Carrier Bureau.

8 After the FCC, I was appointed Associate Director for Telecommunications
9 Research of the National Regulatory Research Institute (“NRRI”) at Ohio State
10 University. My responsibilities at NRRI focused on telecommunications policy as
11 seen from an analytical perspective that combined accounting, engineering, and
12 economic disciplines. During my employment at the Institute, I completed several
13 studies for state public utility commissions, including “The Impact of Measured
14 Telephone Rates on Telephone Usage of Government and Nonprofit
15 Organizations” (for the Public Utilities Commission of Ohio) and “Toward An
16 Analysis of Telephone License Contracts and Measured Rates” (for the Maryland
17 Public Service Commission).

18 In addition, I have provided several state Commissions with technical and
19 economic assistance. This assistance was related to identifying, explaining and
20 analyzing major issues in telecommunications cases. Since joining J.W. Wilson &

1 Associates, Inc. in May 1980, I have provided economic analysis in numerous
2 proceedings in most of the States of the United States, Canada, Bolivia, Nepal,
3 Egypt, and Tanzania. I have provided analysis for the Federal Communications
4 Commission and the United States Department of Justice. For example, I testified
5 on behalf of the Department of Justice in the case that broke up the Bell system.
6 In addition, I have worked for numerous State Attorneys General. For example, I
7 evaluated the merger proposal of Bell Atlantic and NYNEX for the National
8 Association of Attorneys General, the Bell Atlantic and GTE merger proposal for
9 the Pennsylvania Attorney General. I also analyzed the merger proposal of MCI
10 and WorldCom for the California Public Utilities Commission.

11 **Q. ARE YOU A MEMBER OF ANY PROFESSIONAL ORGANIZATIONS**
12 **AND HONOR SOCIETIES?**

13 A. Yes. I am a member of the Society of Depreciation Professionals, the American
14 Economic Association, Omicron Delta Epsilon (an international honor society in
15 economics) and Beta Gamma Sigma (an honor society in business).

16 **Q. COULD YOU BRIEFLY SUMMARIZE YOUR PROFESSIONAL**
17 **RESPONSIBILITIES TO DATE?**

18 A. Yes. My primary responsibilities have been to supervise and actively participate
19 in public utility regulatory policy research, especially in the telecommunications

1 field. These responsibilities require the use and application of economic,
2 accounting, and engineering analyses.

3 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

4 A. I present this testimony on behalf of the South Carolina Consumer Advocate
5 (Consumer Advocate or CA).

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. BellSouth has requested a generic proceeding to update the UNE rates established
8 in 1998. In the last few years, the FCC has issued several rulings and orders with
9 regard of interconnection services and UNEs offered by incumbent local exchange
10 carriers ("ILECs"). I have been asked by the Consumer Advocate to provide an
11 analysis of the cost studies filed and used to develop rates for all UNEs by
12 BellSouth, as identified in the FCC's UNE Remand Order.

13 **Q. HOW ARE YOU GOING TO ADDRESS THIS TASK?**

14 A. I am going to start by presenting my review of the cost studies for unbundled
15 network elements filed by BellSouth. Throughout my testimony I will summarize
16 BellSouth's methodology to allocate costs to the different UNEs. Finally, I will
17 address the cost of the high frequency portion of the loop in line sharing, and why

1 I disagree with BellSouth's cost allocation for the voice portion of the loop and
2 the high frequency use of the same loop.

3 **II. TOTAL ELEMENT LONG RUN COST STUDIES**

4 **Q. COULD YOU SUMMARIZE THE METHODOLOGY USED BY**
5 **BELLSOUTH TO DETERMINE THE COST OF UNBUNDLED**
6 **NETWORK ELEMENTS?**

7 A. Ms. Daonne Caldwell is BellSouth's witness who presents and supports its cost
8 studies. In her testimony, she explains how the Company follows the
9 methodology already accepted by the Commission in Order No. 98-214 in Docket
10 No. 97-374-C dated June 1, 1998. This methodology uses the Total Element Long
11 Run Incremental Cost ("TELRIC") and considers common costs. Additionally,
12 certain shared costs have also been included, as recognized by the FCC. The
13 TELRIC methodology, used in the development of recurring and non-recurring
14 UNE costs, identifies forward-looking direct costs that are associated with a
15 network element in the long run, plus the incremental cost of shared facilities or
16 operations.¹

17 BellSouth used the following models in developing this cost methodology: Loop
18 Model (BSTLM), Switch-related Cost Model, BellSouth Cost Calculator©,

¹ Daonne Caldwell Testimony, pp. 4-5.

1 Capital Cost Calculator®, Price Calculator, and the Nonrecurring Cost Model.²

2 This methodology is also used for developing the cost of UNEs based on
3 geographic location. BellSouth has proposed rates for three zones for the recovery
4 of certain recurring UNE costs.

5 **Q. WHAT IS TELRIC?**

6 A. TELRIC identifies forward-looking direct costs that are caused by the use of a
7 network element in the long run, plus the incremental cost of shared facilities or
8 operation. The assumptions, methods and procedures used in TELRIC cost
9 studies are designed to yield the forward-looking cost of reproducing the
10 telecommunication network, considering the most efficient and least cost
11 technologies.

12 **Q. DO YOU ENDORSE THE TELRIC COST METHODOLOGY FOR**
13 **PRICING UNBUNDLED NETWORK ELEMENTS?**

14 A. Generally the TELRIC methodology is the best method for calculating the cost of
15 utilizing portions of the incumbent LEC's network. TELRIC studies are designed
16 to compute the average incremental cost of providing a network element, based on
17 the forward-looking costs of replacing the entire telecommunications network.

² The BellSouth Cost Calculator® and Capital Cost Calculator® are 1999 copyrighted by BellSouth Corporation, All Rights Reserved.

1 Therefore, generally TELRIC costs are the most appropriate method for estimating
2 future costs.

3 **Q. DO YOU AGREE WITH THE TELRIC RESULTS PRESENTED BY**
4 **BELLSOUTH?**

5 A. I believe that BellSouth's models have been used with the reasonable input data to
6 develop nonrecurring and recurring charges for each of the unbundled network
7 elements ("UNEs") in three cost-related zones as required by the FCC's orders.

8 **III. LINE SHARING**

9 **Q. HOW DO YOU DEFINE LINE SHARING?**

10 A. Incumbent LECs are obligated to provide loops that must be capable of carrying
11 voiceband service as well as xDSL-based service. The provision of both services
12 on the same loop is what is called "line sharing." By unbundling the high
13 frequency portion of the loop, two different service providers are able to offer
14 voice and data services over the same line.

15 **Q. WHAT IS BELLSOUTH PROPOSING WITH REGARD TO**
16 **PROVISIONING xDSL COMPATIBLE LOOPS?**

1 A. BellSouth has recognized the FCC's UNE Remand Order requires them to offer
2 xDSL compatible Loops.³ BellSouth has developed recurring and nonrecurring
3 costs for copper-based xDSL loops, as well as loops using a mixture of copper,
4 fiber and/or DLC systems. Following FCC orders, if the loop is not able to
5 provide xDSL, BellSouth will offer three types of Loop Conditioning: Load
6 Coil/Equipment Removal – Short, Load Coil/Equipment Removal – Long, and
7 Bridged Tap Removal.

8 In addition, BellSouth recognized the need for alternative technologies that would
9 facilitate data services to business and residential customers. BellSouth's witness
10 Cox explained the requirement and describes the condition under which BellSouth
11 proposes to provide Line Sharing to a single requesting carrier at the same
12 customer address as the traditional voice service is being provided (Cox
13 Testimony, pp. 29-30).

14 **Q. WHAT IS THE COST OF THE HIGH FREQUENCY PORTION OF THE**
15 **LOOP?**

16 Some would argue that the cost of using the high frequency portion of the loop is
17 slim or none because phone companies have already provided customers with a
18 loop for voice services. If a customer would request access to xDSL-based
19 services, the additional cost, if any, will be related to conditioning the loop for

³ D. Daonne Caldwell's Testimony at page 38, lines 24-25.

1 high frequency transmission. Once the loop has been conditioned to provide high
2 frequency data services, its use does not require more maintenance; the loop does
3 not wear out any faster because of its sharing; and there is not an additional
4 variable cost. The recurring cost of the loop is fixed regardless if it is used for one
5 or both services.

6 Some parties might conclude that the marginal cost of using the high frequency
7 portion of the loop is zero, and only an installation/line conditioning cost should
8 be charged; but this conclusion is wrong.

9 **Q. WHY DO YOU SAY THAT THE COST OF THE HIGH FREQUENCY**
10 **PORTION OF THE LOOP SHOULD NOT BE ZERO?**

11 A. Loops are now providing two services. Under the above approach, we are
12 considering only the rate component of the marginal cost of providing voice
13 service. The demand for data transmission services is increasing and connection
14 times are extending usually beyond normal conversation times. This results in
15 service congestion and/or marginal plant expenditures that must be incurred to
16 accommodate incremental demand. Thus, marginal usage cost of the data capable
17 portion of the loop tends to be significant.

18 Those who claim that the cost of the loop should be borne by the voice service
19 only tend to portray an average loop cost as a resource commitment that occurs

1 because the customer subscribes to phone service (or as a resource that can be
2 saved if he does not – or if he elects to have a dedicated access line for data
3 service). This is not an accurate picture. It is obvious that the marginal cost of the
4 high frequency portion of the loop is small. However, in the long run we will have
5 most customers enjoying both services over a single line causing the cost of the
6 loop to be divided between the voice and the data service.

7 Even if the number of customers with two services over the same loop is not as
8 high as expected, charging the cost of the loop to voice-only customers with no
9 additional charges to data-sharing customers violates the principle of Universal
10 Service, because basic voice services becomes more expensive. If all costs are
11 allocated to voice providers, CLECs and ILECs providing voice services are
12 subsidizing CLECs and ILECs who provide data over the high frequency portion
13 of the loop. A scenario such as this will stifle competition for voice service and
14 potentially cause an influx of data providers due to the ability to “free-ride” off
15 another service and company.

16 **Q. DO YOU HAVE ANY ADDITIONAL CONCERNS REGARDING THE**
17 **COST OF LOOPS CAPABLE FOR LINE SHARING?**

18 **A.** Yes. Phone companies have been designing the size of the distribution cable in
19 residential areas in order to have loop capacity necessary for at least two separate
20 telephone numbers for each residence. Network designs account for requirements

1 that are expected in the future. Now the incumbent LECs are designing the
2 network for voice and data transmission over the same loop.

3 Therefore, cost recovery should be from each of the elements that cause that
4 investment. Most of the loops are already deployed, but if TELRIC is the
5 forward-looking cost of reproducing the network and there are new standards in
6 loop design for a wide bandwidth, we should consider that the use of the high
7 frequency portion of the loop induces investment in capable loops. In his
8 testimony at page 4, lines 1 through 7, Mr. Keith Milner states:

9 "It should be noted that, in actual network design, voice grade
10 services are mixed with demand for other types of service such as
11 DS-1 services and other higher bandwidth services. In selecting the
12 infrastructure design for a network to meet all of these demands,
13 new copper cable is rarely the facility of choice for the loop feeder
14 network. Instead, fiber cable with fiber optic multiplexers and
15 NGDLC are used to meet the combined demand on the cable route."

16 Therefore, it might be the case that the short run marginal cost of the use of the
17 high frequency portion of the loop is near zero, whether on an incremental or
18 avoided cost basis. However, in the long run, costs will be considered for the
19 design of loops capable for bandwidth services and marginal expenditures
20 required to accommodate increasing demand. Thus, the long run marginal cost
21 of the frequency sharing of the loop is positive and accountable.

1 **Q. HOW DOES BELL SOUTH SPLIT THE COST OF THE LOOP**
2 **BETWEEN VOICE AND DATA IN THE DEVELOPMENT OF RATES?**

3 A. In response to CA Interrogatory No. 1-4, BellSouth states that, "100% of the
4 loop cost is assigned to the voice portion of the loop." BellSouth continues in
5 response to CA Interrogatory No. 1-5, "Loop costs are recovered by the rates
6 for the voice portion of the loop. A CLEC using the high frequency portion of
7 a copper loop would not pay for any of the loop costs. Any costs associated
8 with line splitting would be recovered by the CLEC using the high frequency
9 portion of the loop."

10 Further, in response to CA Interrogatory No. 2-8, BellSouth states that it
11 "...charges the DLEC for access to the high frequency spectrum.... The \$.61
12 recurring charge is to recover expenses associated with OSS to allow access to the
13 high frequency spectrum." In the revised version of this response, BellSouth
14 makes it clear that "...[t]here is no sharing of cost between the voice service
15 provider and the data provider."

16 **Q. DO YOU CONSIDER THIS PRACTICE JUST AND REASONABLE?**

17 A. No. For the reasons stated above, the cost of the loop has to be recovered from all
18 parties that are using it. Even if the incumbent LEC recovers zero loop costs when
19 it uses the high frequency portion of the loop to provide xDSL service over a voice

1 line, allowing the competitive LECs free use of the loop for line sharing with data
 2 services is not reasonable. The forward-looking cost of the high frequency portion
 3 in line sharing is not zero and both services should be responsible for its cost
 4 recovery.

5 The FCC, in an effort to promote the goals of the Telecommunications Act of
 6 1996, states:

7 “Line sharing would enrich consumer choice by enabling customers
 8 to keep their analog voice service with the incumbent local exchange
 9 company, while choosing a competitive LEC to provide high-speed
 10 digital services over the same line without incurring the additional
 11 expense of a second line.”⁴

12 This statement does not mean that when two services are provided over the same
 13 vehicle, one would be responsible for all the cost and the other one would be a free
 14 rider. The assumption that the cost of sharing the high frequency portion of the
 15 loop is zero because the loop is already deployed for use by voice services is
 16 unwarranted, and wrong in a long run cost environment where the design of the
 17 loop combines and considers local voice service, toll voice services and data
 18 services.

19 **Q. HOW SHOULD THE COST OF THE LOOP BE ASSESSED IN THE LINE**
 20 **SHARING CASE?**

⁴ FCC 99-355 Third Report and Order in CC Docket No. 98-147, Fourth Report and Order in CC Docket No. 96-98, page 13, paragraph 20.

1 A. All services using the loop should share in the cost of the loop. Both services are
2 causing the design and costs of loops capable of transmitting good quality voice
3 conversations as well as transmitting good quality data at fast speeds over the
4 same loop. Consequently, the cost of the loop should be shared by all services.

5 **Q. COULD YOU CONTINUE ILLUSTRATING WHY BOTH SERVICES**
6 **SHOULD SHARE THE COST OF THE LOOP?**

7 A. Yes. Let me illustrate my point with an example. There is an inhabited island
8 where investor A wants to develop a resort, and there are no roads that go to the
9 mainland. Investor A decides to build a bridge that would allow his resort to be
10 more attractive. Over the years, he plans to take care of its maintenance and
11 operation, which is part of the costs of his business. In a competitive environment,
12 Investor B decides to build another resort on the same island. Investor B now
13 faces two financial options: (1) he could build his own bridge, or (2) he could
14 arrange to “share” the bridge with Investor A. It will be in the best interest of
15 Investor A’s business to also share the cost of maintenance and operation of the
16 bridge. Therefore, Investor A and Investor B will both bear the cost of using the
17 bridge.

18 It is in the same manner that the cost of a loop should be shared by both service
19 providers – the voice service provider and the data service provider.

1 **Q. WHAT IS A JUST AND REASONABLE ALLOCATION OF COST IN**
2 **LINE SHARING?**

3 A. Some may argue that there is no economically correct way to allocate the loop.
4 However, there are incorrect ways – like assigning zero cost to either service. I
5 believe that it is just and reasonable to equally allocate the cost between data usage
6 and voice usage. Since data traffic and voice traffic share the loop, 50% of the
7 cost of the loop should be assigned to data and 50% to voice.

8 **Q. HOW SHOULD LOOPS THAT ARE TO CARRY ONLY VOICE TRAFFIC**
9 **BE PRICED?**

10 A. The same principles applied to data should be applied to voice. If a CLEC wants a
11 loop to provide only voice service, then 50% of the loop's costs should be
12 reflected in a voice grade UNE loop. If a CLEC wants to provide both data and
13 voice, 100% of the cost should be included in the price. Likewise, a CLEC that
14 wants to provide only data service should be responsible for only 50% of the loop
15 costs.

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

17 A. Yes; it does.